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cc: N. Young
EPA

any good, new info for our summary?

INVESTIGATION OF IMMEDIATE SITE HAZARDS HOWARD SCHOOL AND MONTAGUE PARK

HOWARD SCHOOL

SITE HISTORY- HOWARD SCHOOL

Howard School is a part of the City of Chattanooga Public School System. It was constructed in the mid-1950s. It is located one block south of the junction of I-24 and Alton Park Blvd/Market Street. The school is bounded on the north by a public housing project which lies across Machine Street, on the west by Alton Park Blvd. and residential housing. When the school was constructed, it was bounded on the south and east by meanders of Chattanooga Creek.

During the 1960s and 1970s the City of Chattanooga operated an unregulated landfill on city property to the south of the creek meanders. In the mid 1970s Chattanooga Creek was rerouted and the old channel that formed the boundary of the school property was filled as a part of landfill operations. The landfill was closed in 1977. The landfill closure was conducted as was the practice at that time, by constructing a clay cap over the fill area. No records were available regarding the design of the cap (thickness of the clay layer, permeability of the clay, drainage layers, topsoil or establishment of vegetative cover).

In the late 1980's a day care center was opened to the south of the main building of Howard School. The center provides care for children ages 6 weeks to 5 years. Enrollment is limited to children whose parents attend Howard School. The day care center is located atop a portion of the old landfill that once had been the main channel of Chattanooga Creek.

A portion of Chattanooga Creek has been added to the National Priority List (NPL). This portion does not include the old channel area that borders Howard School. Contamination of the creek is thought to be primarily PAHs from past coal coking and wood creosoteing operations in the Chattanooga Creek watershed. The Howard School site is being investigated for inclusion on the NPL.

STUDY RATIONALE AND DESCRIPTION- HOWARD SCHOOL

The Tennessee Division of Superfund (TN-DSF) has conducted a Site Inspection Prioritization (SIP) for this site. The results of this study were used to prepare a health

DATA PRESENTATION AND RESULTS- HOWARD SCHOOL

A summary of the results of the sampling program for Howard School is presented in Table 1. No non-detects are presented. The complete analytical results as presented by the laboratory appear as Appendix 2. Five of the 8 metals tested appear to be higher than the background levels established by EPA for the Chattanooga Creek Sediment Profile Study. Arsenic, silver, and chromium appear to be within the range of background concentrations at most locations with a few samples showing elevated concentrations. Nineteen different PAHs were detected in the various samples. The highest total PAH concentrations (298 and 220 ppm) occurred in a sample from the Nature Trail and a sample at 18" depth from the Day Care Center respectively. The PAHs appearing in the most samples were Pyrene (21), Benzo(b)fluoranthene (21), Ideno(1,2,3-cd)pyrene (21), Fluoranthene (20), Chrysene (20), Benzo(g,h,i)perylene (20), and Benzo(a)pyrene (20). The compounds occurring in the highest average concentrations were Pyrene (6569 ug/kg), Phenanthrene (6036 ug/kg), Benzo(a)anthracene (5376 ug/kg), Dibutylphthalate (4657 ug/kg), and Fluoranthene (4347 ug/kg). The Chattanooga Creek Study indicates that the background concentrations of these and other PAHs analyzed should be below or very near detection limit.

MONTAGUE PARK

SITE HISTORY- MONTAGUE PARK

Montague Park is a public park owned and operated by the City of Chattanooga. It serves primarily as a facility for adult softball games. A small play ground area has been developed for children of players. The area has nominal use when games are not scheduled. The property was the site of an open unsecured dump from the mid-1940's to the mid-1960's. It has been reported that commercial, residential, and industrial waste were disposed of at the landfill.

Historical aerial photography of the site corroborates anecdotal evidence that several water filled pits were part of the site. One of these pits was probably the "blue hole" so named because of the blue color of the water, reportedly from the presence of textile or mill wastes.

STUDY RATIONALE AND DESCRIPTION- MONTAGUE PARK

As was the case with Howard School, the Tennessee Department of Health has conducted a health consultation for this site. The health consultation for the site contained the following recommendations:

RECOMMENDATIONS

Based upon the data and the risk assessment, it is recommended that:

- The Old Channel Area should be posted and fenced. The risk assessment suggests it would be prudent to limit exposure in this area.

- No digging should be allowed in the Nature Trail Area and activities should be limited to those of an observational nature. Subsurface levels of contaminants may be substantially higher than surface soil levels, and the risk assessment suggests it would be prudent to limit exposure

- The surface soil at the Day Care Center should be removed to a depth of approximately 18 inches and an impermeable barrier be placed at that level. A reasonable design for this barrier would be a 6" layer of native clay compacted so as to obtain a permeability of 1×10^{-6} (cm/sec) overlain by a synthetic liner and drainage mat. The remaining foot would be filled using clean fill and topsoil. The risk assessment results for the Day Care Center are borderline. When results are this close it is generally accepted practice to err on the side of over protecting rather than under protecting the public.